

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. Claims 1-16 and 32-37 have been rejected by the Examiner. Claims 1, 3-11, and 13 have been amended. No new matter has been added. Accordingly, Claims 1-37 will be pending in the present application upon entry of this Reply and Amendment.

A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Claim Rejections – 35 U.S.C. § 112

On page 2 of the Office Action, the Examiner rejected Claims 1-16 under 35 U.S.C. § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner stated:

Claims 1 [sic] recites a member which appears to be recited as a connector and a component. The applicant needs to either change claim 1 or have the connector be defined as the member and component. It is not clear if the member or the connector or component is correctly recited. This is confusingly worded because the same element is being renamed but recited as though it were separate elements.

Claim 1 states that the member inserts into the a [sic] component of the first assembly which is a shaft or gear but there is no mechanism which really accepts the member.

While the Applicants respectfully disagree with the Examiner and submit that the rejection under 35 U.S.C. § 112 ¶ 2 is without merit (see, e.g., the arguments in the October 24, 2005 Reply and Amendment), independent Claim 1 has nevertheless been amended to advance prosecution in this case. The term “member” has been replaced with “male connector” in Claim 1 and in various dependent claims.

Additionally, Claim 1 has been amended to more clearly recite the manner in which the male connector is coupled to the first assembly (e.g., either by inserting it into an aperture

provided in the first shaft or in an aperture provided in a female connector that is coupled to the first shaft).

Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-16 under 35 U.S.C. § 112 ¶ 2.

Claim Rejections – 35 U.S.C. § 102(b) - Kopras

1. Kopras

On page 3 of the Office Action, the Examiner rejected Claims 1-2 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,048,260 to Kopras. The Applicants respectfully traverse this rejection. The rejection should be withdrawn because Kopras does not disclose at least one limitation recited in independent Claim 1.

Claim 1 recites, among other elements, “a male connector configured for removable coupling to a motor shaft of a rotary power tool and for removable coupling with the first assembly; wherein at least a portion of the male connector is configured for insertion into an aperture provided in the first shaft or an aperture provided in a female connector coupled to the first shaft.”

Kopras does not identically disclose a “male connector” such as that recited in independent Claim 1. In contrast, Kopras discloses a “mechanical structure 32” that allows a “first shaft 50 to be attached to the end of the cutting tool motor shaft” (see Kopras at col. 8, lines 29-35). There is no indication that the “mechanical structure 32” of Kopras is inserted into the “first shaft 50” or any other structure. Instead, the “mechanical structure 32” is described at col. 6, lines 19-44 as being a “conventional drill-type chuck” or a “collet-type system.” As clearly shown in Figure 5 of Kopras, the “first shaft 50” is actually received within the “mechanical structure 32.”

Accordingly, the rejection of Claim 1 over Kopras is improper and should be withdrawn. Dependent Claim 2, which depends from independent Claim 1, is also patentable. See 35 U.S.C. § 112 ¶ 4.

The Applicants respectfully request withdrawal of the rejection of Claims 1-2 under 35 U.S.C. § 102(b).

2. Prell et al.

On page 3 of the Office Action, the Examiner rejected Claims 1-2 and 6-16 under 35 U.S.C. § 102(b) as being anticipated by EP 1129825 to Prell et al. The Applicants respectfully traverse this rejection. The rejection should be withdrawn because Prell et al. does not disclose at least one limitation recited in independent Claim 1.

In rejecting Claims 1-2 and 6-16, the Examiner stated that in Prell et al., “[t]he connector is Figure 2.”

As described in the previous Reply and Amendment, it is unclear what is meant by this statement by the Examiner (and the Examiner has not clarified this statement in the present Office Action). If the Examiner intends to suggest that the “driver nut 56” shown in Figure 2 of Prell et al. is the same as the “male connector” recited in Claim 1, then the Applicants respectfully disagree. Prell et al. provides the following description of the “driver nut 56” at paragraph [0033], with underlining added by the Applicants for emphasis:

[0033] In accordance with yet another important aspect of the present invention, the driver nut 56 shown in FIGS. 2 and 3 has a hexagonal outer configuration so that a wrench can be used to apply it to or remove it from the output shaft 42. The driver nut has a hollow interior 76 that provided with a threaded surface and is sized so that the driver nut 56 can be screwed onto the output shaft 42. Again, other attachment technologies besides threaded engagement are contemplated. The right end portion 78 has an opening 80 that is smaller than the threaded interior 76 and thereby forms an interior annular shelf 82 at the right end portion 78 that engages the outer end of the output shaft 42 when the nut 56 is tightened on the output shaft. The opening 80 also has an interior grooved configuration that preferably contains 8 symmetrically located grooves 84. This 8 point groove configuration is used to provide easier insertion of the square end 74 of the flexible shaft 30 into the driver nut 56 when the attachment is mounted to the rotary hand tool 38. It should be understood that a 4 point grooved configuration could be used, but with a configuration, the square ended shaft

would have to be more accurately aligned to enable insertion of the flexible shaft 30.

Claim 1 recites, among other elements, “a male connector configured for removable coupling to a motor shaft of a rotary power tool and for removable coupling with the first assembly; wherein at least a portion of the male connector is configured for insertion into an aperture provided in the first shaft or an aperture provided in a female connector coupled to the first shaft

Prell et al. does not disclose a “male connector” such as that recited in Claim 1. As clearly stated in the underlined portion of the above excerpt from Prell et al., the aperture formed in the end of the “driver nut 56” shown in Figure 2 of Prell et al. “allows for easier insertion of the square end 74 of the flexible shaft 30 into the driver nut 56” – that is, the “driver nut 56” of Prell et al. is not “configured for insertion into an aperture provided in the first shaft or an aperture provided in a female connector” as recited in Claim 1 of the present application.

Accordingly, the rejection of Claim 1 over Prell et al. is improper and should be withdrawn. Dependent Claims 2 and 6-16, which depend from independent Claim 1, is also patentable. See 35 U.S.C. § 112 ¶ 4.

The Applicants respectfully request withdrawal of the rejection of Claims 1-2 under 35 U.S.C. § 102(b).

Claim Rejections – 35 U.S.C. § 103

On page 3 of the Office Action, the Examiner rejected Claims 3-5 and 17-37 as being unpatentable over Prell et al. in view of U.S. Patent No. 3,574,374 to Keller et al. under 35 U.S.C. § 103(a). The Applicants respectfully traverse this rejection. The rejection should be withdrawn because at least one limitation of each of the rejected claims is not taught or suggested by Prell et al., alone or in combination with Keller et al.

In rejecting Claims 3-5 and 17-37, the Examiner stated:

- a. EP 1129825 A2 discloses the claimed invention except for an aperture component in the first shaft connecting the connector.
- b. Keller discloses an attachment having a shaft (32) with an aperture (100) for attaching to a connector (60) which allows for an alternative way connecting the shaft to a motor for powering the attachment.
- c. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the EP 1129825 A2 device by replacing the shaft with an aperture as taught by Keller which allows for an alternative way connecting the shaft to a motor for powering the attachment.

Claim 1 recites, among other elements, “a male connector configured for removable coupling to a motor shaft of a rotary power tool and for removable coupling with the first assembly; wherein at least a portion of the male connector is configured for insertion into an aperture provided in the first shaft or an aperture provided in a female connector coupled to the first shaft.”

Neither Prell et al. nor Keller et al. disclose, teach, or suggest a “male connector” such as that recited in Claim 1. As described above, Prell et al. does not teach or suggest a “male connector” that is configured for insertion into an aperture provided in the first shaft or an aperture provided in a female connector, as required by Claim 1.

Keller et al. also does not teach or suggest a “male connector” such as that recited in Claim 1, either alone or in combination with Prell et al. For example, the “drive shaft 56” that includes a “forward end part 60” relied upon by the Examiner in Keller et al. is not “removably coupled to a motor shaft of a rotary power tool” as required by Claim 1. Accordingly, the non-removable “drive shaft 56” of Keller et al. is not a “male connector” as that term is used in Claim 1.

Accordingly, neither Prell et al. nor Keller et al., alone or in any proper combination, teach or suggest the “male connector” recited in Claim 1. Claims 3-5, which depend from Claim 1, are therefore allowable.

Claim 32 is in independent form and recites, among other elements, “A connector . . . comprising . . . a head portion having a plurality of surfaces . . . at least one of the plurality of surfaces being convex with respect to the central longitudinal axis in the direction of the central longitudinal axis.”

Figures 10 and 12 of the present application illustrate one exemplary embodiment of the use of convex surfaces on a head portion of a connector, and paragraph [0056] of the present specification provides the following description (underlining added for emphasis):

[0056] The shape of the male connector 140 provides for relatively simple and secure coupling of the male connector 140 to the female connector 156. As shown in FIGURES 10 and 12, the six surfaces 147 that form the outer surface of the head portion 149 have a curved or crowned shape (i.e., the surfaces 147 are convex with respect to the central longitudinal axis 141 in the direction shown by arrow A, with point 143 representing the point at which the surfaces 147 reach their greatest distance from the central longitudinal axis 141). The surfaces 147 are generally flat or planar moving in the direction shown by arrow B perpendicular to the central longitudinal axis 141 (see, e.g., FIGURE 11, in which the outermost point 143 of the surfaces 147 are generally flat or planar when viewed in the direction of the central longitudinal axis 141).

Neither Prell et al. nor Keller et al., alone or in any proper combination, teach or suggest the “connector” having a head portion having a plurality of surfaces that are “convex with respect to the central longitudinal axis in the direction of the central longitudinal axis” as recited in Claim 32. The Examiner has pointed to no structure in either Prell et al. or Keller et al. that would meet such limitation.

Accordingly, at least one limitation of independent Claim 32 is not taught or suggested by the combination of Prell et al. and Keller et al., and therefore Claims 32-37 are allowable over the combination of Prell et al. and Keller et al.

The Applicants respectfully request withdrawal of the rejection of Claims 3-5 and 32-37 under 35 U.S.C. § 103(a).

* * *

It is submitted that each outstanding objection and rejection to the Application has been overcome, and that the Application is in a condition for allowance. The Applicants request consideration and allowance of all pending Claims 1-37.

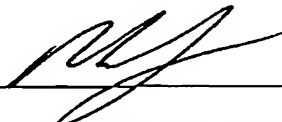
The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1447. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 06-1447.

Respectfully submitted,

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